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## CEIPI Lecture Series

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# Innovation in agriculture and food security

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Former member of the Board of Appeal of the CPVO



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## Outline

1. Native plant traits (focus)
2. Food security (problem)
3. Legal tools (solution)
4. A conceptual interpretation (conclusion)

## 1. (GM versus) native plant traits

- GM trait (Exogene trait, man-made trait)
  - a trait in *other organisms* (**bacterium**, fungi, animal, human) or in other *non-related plant species*
  - introduced in the genome of a plant via *GM/molecular techniques*



**Bollgard<sup>R</sup> cotton**

- a trait (insect resistance) from *Bacillus thuringiensis* (**Bt**)
- introduced via genetic modification technique

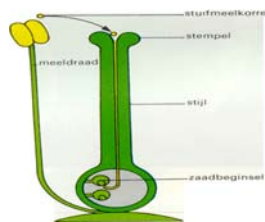


- Native trait (Endogene trait)
  - a trait based on naturally occurring genetics in *plants*
  - inserted into the target plant by *sexual crossing*



Kanzi apple

- a trait (increased vitamine A level) from *other apple variety*
- introduced via sexual crossing



## 2. Food security

Plant traits

- = basis genetic variation
- = most important source of innovation
- = condition to safeguard **food security**/deal with consequences climate change

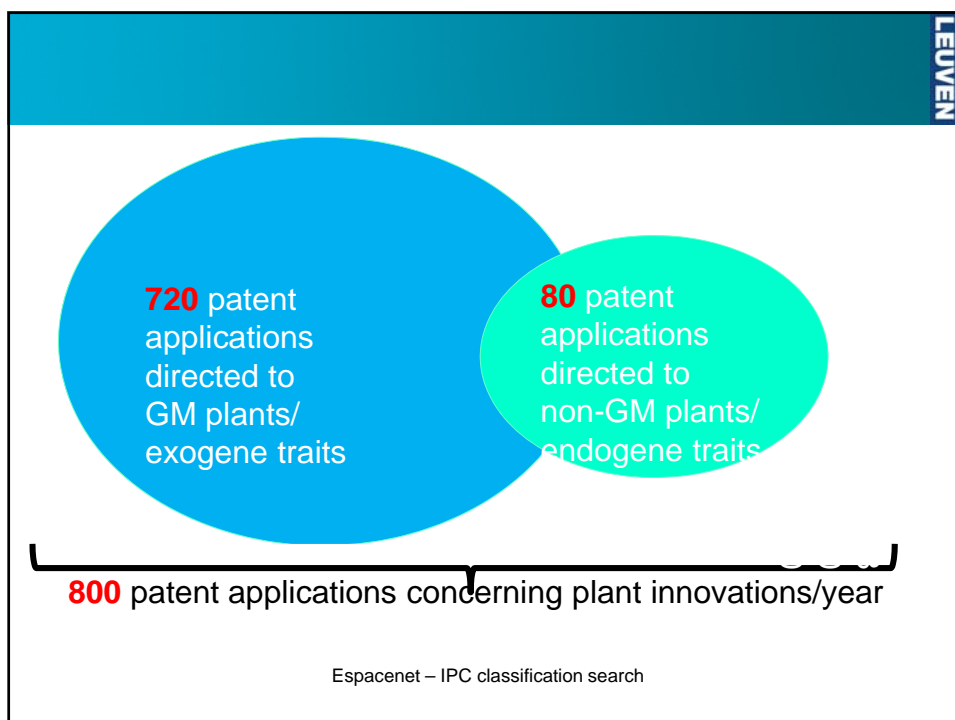


CGN Report 2009-14 (EN)

Centre for Genetic Resources, the Netherlands (CGN)

Supported by *Position Papers*  
ESA & ISF

Current IP regime, allowing patents on native plant traits, leads to **restricted access** to genetic variation



### 3. Legal solutions

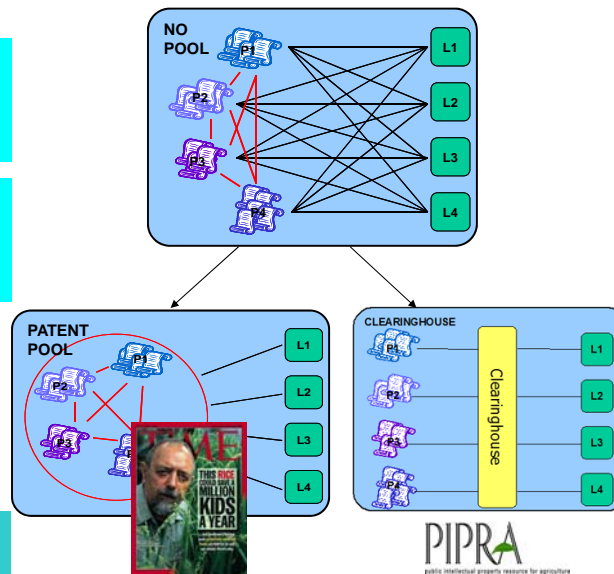
#### Ban patents

Formal *legal* rules

#### More adequate licensing models

Formal rules of *contract*

#### Global breeder's exemption patent law



### Best solution?

#### legislator

##### Normative criteria

**Internal** criteria [embedded in the law]  
e.g. fairness, equality, prevention distortion competition

**External** criteria [not directly embedded in law]  
e.g. efficiency, cost reduction

##### Here

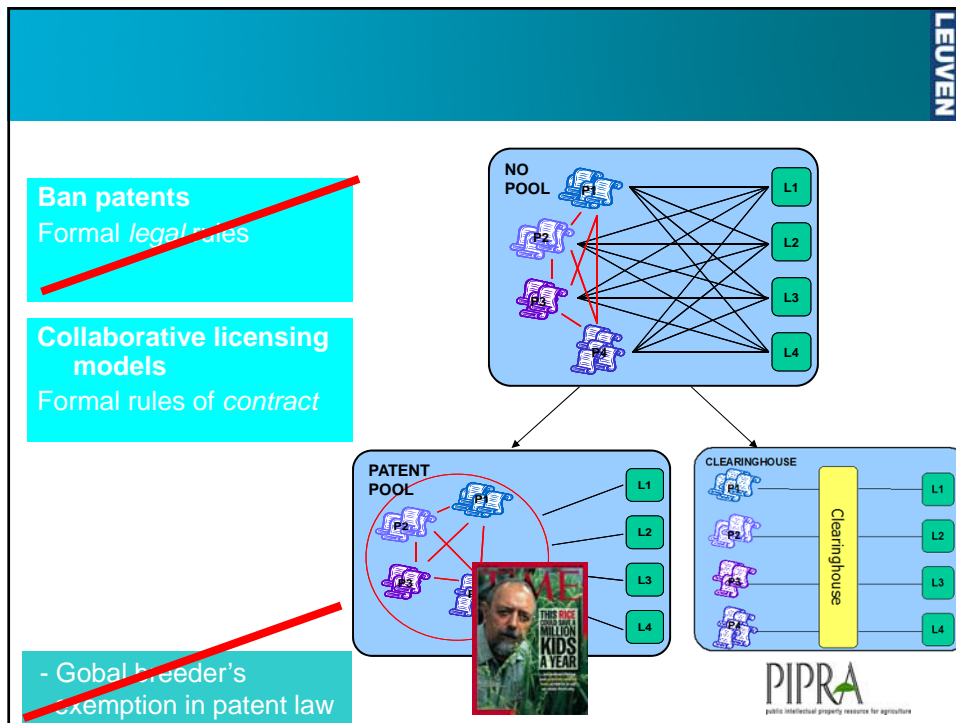
##### Internal :

- maintain current rationale of *patent* system to serve as a (positive) incentive for the production of plants
- *competition* law requirements

##### External:

- Access to genetic variation is essential for breeding crops in the future, and food security
- Feasability

#### solution



Google Scholar Rechtsfaculteit KUL

Search: michael kock

Ben Tax, Rijk Zwaan  
Michael Kock, Head of Intellectual Property, Syngenta

**“Industry solution”**

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**Andrew Hessel, Genomic Futurist**



## April 2013

*By Dr. Michael A. Kock, Head of Intellectual Property, and Christine Gould, Global Public Policy Manager, Syngenta International AG*

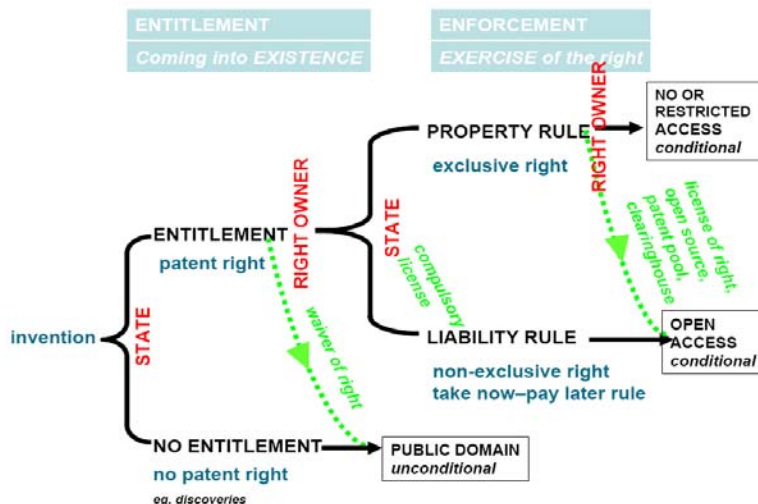
More than ever, innovation is needed to meet the challenges of a rapidly-growing world population which is poised to increase from 7 billion today to almost 9 billion by 2050. Higher calorie demand and an increased use of crops for biofuels will require agricultural production to increase by 70 percent by 2050 (*OECD-FAO Agricultural Outlook 2010-2019*). Climate change and decreasing availability of water and farmland will add further complexity to the situation. We need to meet this challenge by producing more with less - less land, and fewer inputs, including less fertilizer. This will only be possible if we maximize agricultural innovation in areas such as seeds, biotechnology, crop protection, resource-saving agricultural practices, storage and transportation. Similarly - and even more importantly given the complexity of this endeavor - we need to develop solutions that make it possible to integrate the variety of innovative elements

Syngenta is also working with its partners, including small and medium-sized seed companies, to design an industry-wide licensing platform for vegetable traits. The aim again is to ensure easy access to these traits using transparent licensing conditions that carefully balance the interests of patent holders and licensees. This initiative enables the integration (stacking) of innovations from different parties and eliminates any risk that royalty payments may become a limitation to the development of an integrated solution.

**"IP bashing" has become fashionable, but abandoning IP is a short-sighted and risky business."**

To ensure it is widely adopted, the initiative includes a "pull-in" mechanism requiring licensees to make their own patents available to the platform. It operates on a "give-and-take" basis whereby each party that accesses a patented technology via the platform is required to provide access to their own patents under the terms of the platform. Everybody, irrespective of patent ownership, can participate in the platform. The initiative is not intended to replace bilateral licenses but rather to provide a safety net should bilateral negotiations fail. A concrete proposal detailing the industry licensing platform was submitted for review by the competent competition law authorities.

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VAN OVERWALLE, G., 'Exclusive Property versus Open Commons. The Case of Gene Patents', *The WIPO Journal: Analysis and Debate of Intellectual Property Issues*, 4, 2013, 139-158

## Our choice ...

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Giuseppe Arcimboldo



Giuseppe Arcimboldo

Balance IP protection/access to safeguard food security